

IN THE CLAIMS

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

- 1 1. (Original) A method comprising:
2 allocating a first portion of a first memory as a static section to store a main program which uses
3 functional programs stored in a second memory; and
4 allocating a second portion of the first memory as a dynamic section to store other programs, the
5 dynamic section including a plurality of overlay spaces to overlay the functional programs loaded from
6 the second memory to conserve memory capacity of the first memory.
- 1 2. (Original) The method of claim 1, wherein the allocating of the overlay spaces is determined by
2 similar functions performed by the functional programs that are to be loaded into the overlay spaces.
- 1 3. (Original) The method of claim 1, wherein in allocating the overlay spaces, individual overlay
2 spaces have entry and exit points for functional programs loaded into respective overlay spaces.
- 1 4. (Original) The method of claim 1, further comprising accessing a functional program from the
2 main program by specifying a resource identifier to identify a particular functional program and an entry
3 address to identify an entry point into one of the overlay spaces.
- 1 5. (Original) The method of claim 1, wherein the allocating of the first and second portions are
2 allocated on the first memory resident on an integrated circuit and the functional programs to be loaded
3 into the overlay spaces are resident on the second memory external to the integrated circuit.

1 6. (Previously Presented) A method comprising:
2 executing a program statement of a main program to perform a particular functional operation by
3 identifying a corresponding functional program using a resource identifier and by specifying an entry
4 point into one of the overlay spaces;
5 using the resource identifier to identify a corresponding functional program to perform the
6 particular functional operation;
7 loading the functional program into an overlay space specified by the specified entry point by:
8 loading the functional program into a specified overlay space assigned to
9 program functions having similar performing tasks; and
10 loading the resource identifier into a register and reading the register to call the
11 functional program into the specified overlay space; and
12 executing the functional program in the overlay space.

Claims 7-8. (Cancelled)

1 9. (Currently Amended) The method of ~~claim 8~~ claim 6, wherein executing the functional program
2 also includes calling at least one other functional program, in which functional programs are nested for
3 overlaying.

1 10. (Currently Amended) The method of ~~claim 8~~ claim 6, further comprising returning to the main
2 program after executing the functional program in the overlay space.

1 11. (Original) An apparatus comprising:
2 a first memory having a first portion as a static section to store a main program which uses
3 functional programs and a second portion as a dynamic section to store other programs which reside in
4 the first memory for a shorter duration than the main program, the dynamic section including a plurality
5 of overlay spaces to overlay functional programs; and
6 a second memory operably coupled to store the functional programs and to load a functional
7 program specified by a resource identifier in the main program to a corresponding overlay space specified
8 by an entry point specified by the main program.

1 12. (Original) The apparatus of claim 11, wherein the first memory is a random access memory
2 resident in an integrated circuit and the second memory is an external memory to the integrated circuit.

1 13. (Original) The apparatus of claim 12, wherein the second memory is larger in capacity than the
2 first memory, but in which the functional programs are loaded into the overlay spaces to allow overlay in
3 use of the functional programs.

1 14. (Original) The apparatus of claim 13, wherein individual overlay spaces are assigned to load
2 program functions having similar performing tasks.

1 15. (Original) A multi-function handheld device comprising:
2 a system on a chip integrated circuit that includes an internal memory arranged to have a first
3 portion as a static section to store a main program which uses functional programs and a second portion as
4 a dynamic section to store other programs which reside in the internal memory for a shorter duration than
5 the main program, the dynamic section including a plurality of overlay spaces to overlay the functional
6 programs; and
7 an external memory operably coupled to the integrated circuit to store the functional programs
8 and to load a functional program specified by a resource identifier in the main program to a corresponding
9 overlay space specified by an entry point specified by the main program.

1 16. (Original) The multi-function handheld device of claim 15, wherein the internal memory is a
2 random access memory and the external memory is a flash memory device.

1 17. (Original) The multi-function handheld device of claim 15, wherein the external memory is larger
2 in capacity than the internal memory, but in which the functional programs are loaded into the overlay
3 spaces to allow overlay in use of the functional programs.

1 18. (Original) The multi-function handheld device of claim 15, wherein the functional programs are
2 assigned to a particular overlay space based on having similar performing tasks.

1 19. (Original) The multi-function handheld device of claim 15, wherein the integrated circuit includes
2 a register to load resource identifiers, which are then read to load the functional programs.